

Appl. No. : 09/980,432
Filed : June 11, 2002

AMENDMENTS TO THE CLAIMS

Please cancel Claims 86, 90, 101 and 104-145 without prejudice.

Please amend Claims 84, 89 and 92 as follows.

Please add new Claim 146 as follows.

1-74. (Previously cancelled)

75. (Previously presented) A tip structure for an electron emissive device or a scanning probe device, comprising a single-crystalline substrate and a single-crystalline tip epitaxial to the substrate, wherein an axis of the tip forms a predetermined angle with respect to a vertical axis that passes through the substrate.

76. (Previously presented) The tip structure of Claim 75, wherein the substrate has a plane surface.

77. (Previously presented) The tip structure of Claim 75, wherein the substrate represents a single-crystalline tip epitaxial to a plane single-crystalline surface.

78. (Previously presented) The tip structure of Claim 75, wherein a single point of the substrate serves as a basis for at least two tips.

79. (Previously presented) The tip structure of Claim 75, wherein the tip has a shape that includes at least one step and two links, an axis of each subsequent link configured to form a predetermined angle with respect to the axis of a previous link.

80. (Previously presented) The tip structure of Claim 79, wherein at least one step serves as a basis for at least two links, at least one of links configured to be not epitaxial to a previous link.

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81. (Previously presented) The tip structure of Claim 79, wherein at least one of the links is formed by a nanotube.

82. (Previously presented) The tip structure of Claim 81, wherein the nanotube is combined by layers of different materials, one of them being carbon.

83. (Previously presented) The tip structure of Claim 79, wherein at least one of the links is formed by at least one atomic row.

84. (Currently amended) The tip structure of Claim 75, wherein ~~at least one~~ the tip has a particle on a top that contains, in addition to a material of the tip material, at least one more chemical element, wherein the particle is coated by a film of the chemical element.

85. (Previously presented) The tip structure of Claim 84, wherein at least one chemical element, that is contained in the particle, participates in a growing of the tip structure.

86. (Cancelled)

87. (Previously presented) The tip structure of Claim 75, wherein a nonmagnetic tip has a flat top, and wherein a monodomenic magnetic particle of a conical shape is placed on the flat top, a basis of the particle contacting the flat top.

88. (Previously presented) The tip structure of Claim 75, wherein an electroconductive tip has a flat top perpendicular to the axis of the tip, wherein the flat top is coated by a dielectric film, and wherein a p-n junction in an upper part of the tip is parallel and close to the flat top.

89. (Currently amended) A tip structure for an electron emissive device or a scanning probe device, comprising a substrate and a single-crystalline tip, wherein the tip is not epitaxial to the substrate and wherein an axis of the tip forms an angle with respect to a vertical axis that passes through the substrate.

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90. (Cancelled)

91. (Previously presented) The tip structure of Claim 89, wherein the substrate has a plane surface.

92. (Currently amended) A tip structure for an electron emissive device or a scanning probe device, comprising a substrate and a single-crystalline tip, wherein the tip is not epitaxial to the substrate~~The tip structure of Claim 89, wherein a single-crystalline tip epitaxial to a plane single-crystalline surface serves as the substrate.~~

93. (Previously presented) The tip structure of Claim 89, wherein one point of the substrate serves as a basis for at least two tips.

94. (Previously presented) The tip structure of Claim 89, wherein the tip has a shape that contains at least one step and two links, an axis of each subsequent link has a predetermined angle with respect to an axis of a previous link.

95. (Previously presented) The tip structure of Claim 94, wherein at least one step serves as a basis for two links, and wherein at least one of the links is not epitaxial to the previous one.

96. (Previously presented) The tip structure of Claim 94, wherein at least one of the links is formed by a nanotube.

97. (Previously presented) The tip structure of Claim 96, wherein the nanotube is formed by layers of different materials, one of the materials being carbon.

98. (Previously presented) The tip structure of Claim 94, wherein at least one of the links is formed by at least one atomic row.

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99. (Previously presented) The tip structure of Claim 89, wherein at least one tip has a particle on a top that contains, in addition to a material of the tip, at least one more chemical element, and wherein the particle is coated by a film of the chemical element.

100. (Previously presented) The tip structure of Claim 99, wherein at least one chemical element, that is contained in the particle, participates in a growing of the tip structure, and the particle can be coated by a film of a different chemical element.

101. (Cancelled)

102. (Previously presented) The tip structure of Claim 89, wherein a non-magnetic tip has a flat top, wherein a monodomenic magnetic particle of a conical shape is placed on the flat top, and wherein a basis of the particle contacts the flat top.

103. (Previously presented) The tip structure of Claim 89, wherein an electroconductive tip has a flat top perpendicular to an axis of the tip, wherein the flat top is coated by a dielectric film, and wherein a p-n junction in an upper part of the tip is parallel and close to the flat top.

104-145.(Cancelled)

146. (New) The tip structure of Claim 75, wherein a magnetic or dielectric material is formed on a distal end of the tip.